

Remarks

This is in response to the Office Action mailed on August 6, 2002. Claim 1 has been amended, support for which can be found on page 6, line 30 - page 7, line 20 of the present application. Claims 1-9 remain pending. Reconsideration and allowance of all claims are respectfully requested.

In section 1 of the Action, claims 1 and 5-9 were rejected under 35 U.S.C. § 102(a) as being anticipated by Huber et al., U.S. Patent No. 5,938,003. This rejection is respectfully traversed. Claim 1 is directed to a roller drive unit for conveying an object. Claim 1 recites that the roller drive unit includes, inter alia, a drive motor and a drive roller connected to the drive motor by a planetary gear, the drive roller propelling the object. Claim 1 further recites that the roller drive unit includes a first controllable brake to slow down the drive roller without slowing down the drive motor, and a second controllable brake to keep a lifting apparatus in place.

The configuration recited in claim 1 may be advantageous, for example, because the first controllable brake that slows down the drive roller, without slowing down the drive motor, may at the same time slow down the first gear output, which is connected to the drive roller. In this configuration, the second gear output, which is connected to the lifting apparatus, may receive momentum from the drive motor and can lift the drive roller. When the drive roller is in its lifted (i.e., working) position, the second controllable brake can then be closed to maintain the drive roller in position without requiring any further momentum from the drive motor, and the first controllable brake can be opened so that the full momentum of the drive motor may be available for driving an object and no additional momentum for holding the drive roller in the lifted position is required. See page 6, line 30 - page 7, line 20 of the present application.

In contrast, Huber discloses a roller drive unit in which a brake mechanism 90 is provided in addition to brakes 70 (which acts on the lifting mechanism) and 80 (which acts on the drive shaft of the motor). The additional brake mechanism 90 continuously brakes the drive roller 30 (and thereby the driver motor 20) for enabling a lifting mechanism 40 to lift up the drive roller 30. If no such braking mechanism 90 is provided for braking the drive roller 30, the drive roller will rotate continuously in the resting position and no momentum is created to act on the lifting mechanism 40 for lifting up the drive roller 30. In the resting position of the drive roller 30, no

contact between the drive roller 30 and an item to be driven is established and, therefore, the drive roller 30 cannot work without the braking mechanism 90. See page 2, lines 25-33 of the present application. This arrangement of the drive roller 30 may be disadvantageous because during normal driving of an item to be conveyed, a considerable amount of energy from the driver motor is transformed into heat by the brake 90.

Huber fails to disclose or suggest a first controllable brake that slows down the drive roller without slowing down the drive motor. In Huber, the brake 90 acts on the drive roller, which in turn acts to slow down the drive motor. For at least this reason, Huber fails to anticipate claim 1, as well as claims 5-9 that depend therefrom. Reconsideration and allowance of claims 1 and 5-9 are respectfully requested.

In section 2 of the Action, claims 2 and 3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Huber. This rejection is respectfully traversed. Claims 2 and 3 depend from claim 1 and should therefore be allowable for at least the same reasons as expressed with respect to claim 1 above. Reconsideration and allowance of claims 2 and 3 are respectfully requested.

In section 3 of the Action, the Examiner noted that claim 4 would be allowable if rewritten in independent form. Applicants appreciate the Examiner's identification of allowable subject matter. All claims should now be in condition for allowance.

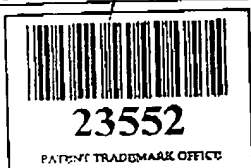
In view of the above amendments and remarks, claims 1-9 are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully requested. The Examiner is encouraged to contact the undersigned attorney at (612) 371-5265 with any questions concerning this application.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

Please amend claim 1 as follows.

1. (Once Amended) A roller drive unit for conveying an object comprising:
 - a drive motor;
 - a planetary gear with an input connected to the drive motor and with a first gear output and a second gear output;
 - a drive roller, which is connected to the first gear output, to propel the object;
 - a lifting apparatus connected to the second gear output, to lift the drive roller out of a retracted resting position, in which the drive roller does not contact the object, into a raised operating position in which the drive roller can engage the object;
 - a first controllable brake to slow the drive roller without slowing down the drive motor;
- and
 - a second controllable brake to keep the lifting apparatus in place.